

IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application.

Claim 1. (Canceled)

Claim 2. (Canceled)

Claim 3. (Canceled)

Claim 4. (Canceled)

5. (Currently amended) A magnetic memory comprising:

a word line;

a bit line intersecting the word line; and

a memory cell positioned in an intersection portion of the word and bit lines and including [[the]] a magnetoresistance element [[according to claim 1]], the magnetoresistance element comprising:

a free layer comprising a first ferromagnetic layer and a second ferromagnetic layer which face each other and whose magnetization directions are equal to each other, and a nonmagnetic film which intervenes between the first and second ferromagnetic layers, the free layer being changeable in the magnetization directions on applying a magnetic field;

a first pinned layer comprising a third ferromagnetic layer which faces the free layer, the first pinned layer retaining a magnetization direction thereof on applying the magnetic field; and

a first nonmagnetic layer intervening between the free layer and the first pinned layer, wherein the first nonmagnetic film is a layer selected from the group consisting of a first layer made of molybdenum and having a thickness of 0.8 nm to 1.2 nm, a second layer

wherein the nonmagnetic film is a layer selected from the group consisting of a first layer made of molybdenum and having a thickness of 0.8 nm to 1.2 nm, a second layer made of rhenium and having a thickness of 1.4 nm to 1.8 nm, a third layer made of tungsten and having a thickness of 0.8 nm to 1.2 nm, and a fourth layer made of niobium and having a thickness of 1.4 nm to 1.8 nm.

Claim 6. (Canceled)

Claim 7. (Canceled)

Claim 8. (Canceled)

Claim 9. (Canceled)

10. (Currently amended) A magnetic memory comprising:
a word line;
a bit line intersecting the word line; and
a memory cell positioned in an intersection portion of the word and bit lines and
including [[the]] a magnetoresistance element [[according to claim 7]], the magnetoresistance element comprising
a free layer comprising a first ferromagnetic layer and a second ferromagnetic layer which face each other and whose magnetization directions are equal to each other, and a nonmagnetic film which intervenes between the first and second ferromagnetic layers the free layer being changeable in the magnetization directions on applying a magnetic field;

a first pinned layer comprising a third ferromagnetic layer which faces the free layer, the first pinned layer retaining a magnetization direction thereof on applying the magnetic field; and a first nonmagnetic layer intervening between the free layer and the first pinned layer, wherein the nonmagnetic film is a layer selected from the group consisting of a first layer made of silicon and having a thickness of 1.4 nm to 1.8 nm, a second layer made of germanium and having a thickness of 1.4 nm to 1.8 nm, a third layer made of Al₂O₃ and having a thickness of 1.0 nm, and a fourth layer made of AlN and having a thickness of 0.5 nm to 1.5 nm.

Claim 11. (Canceled)

Claim 12. (Canceled)

Claim 13. (Canceled)

Claim 14. (Canceled)

Claim 15. (Canceled)

Claim 16. (Canceled)

Claim 17. (Canceled)

Claim 18. (Canceled)

Claim 19. (Canceled)

20. (New) The magnetic memory according to claim 5, wherein the first nonmagnetic layer is the first layer.

21. (New) The magnetic memory according to claim 5, wherein the first nonmagnetic layer is the second layer.

22. (New) The magnetic memory according to claim 5, wherein the first nonmagnetic layer is the third layer.

23. (New) The magnetic memory according to claim 5, wherein the first nonmagnetic layer is the fourth layer.

24. (New) The magnetic memory according to claim 10, wherein the first nonmagnetic layer is the first layer.

25. (New) The magnetic memory according to claim 10, wherein the first nonmagnetic layer is the second layer.

26. (New) The magnetic memory according to claim 10, wherein the first nonmagnetic layer is the third layer.

27. (New) The magnetic memory according to claim 10, wherein the first nonmagnetic layer is the fourth layer.

28. (New) The magnetic memory according to claim 5, wherein the magnetoresistance element further comprises:

a second pinned layer comprising a fourth ferromagnetic layer which faces the first pinned layer with the free layer interposed therebetween, the second pinned layer retaining a magnetization direction thereof on applying the magnetic field; and

a second nonmagnetic layer intervening between the free layer and the second pinned layer.

29. (New) The magnetic memory according to claim 10, wherein the magnetoresistance element further comprises:

a second pinned layer comprising a fourth ferromagnetic layer which faces the first pinned layer with the free layer interposed therebetween, the second pinned layer retaining a magnetization direction thereof on applying the magnetic field; and

a second nonmagnetic layer intervening between the free layer and the second pinned layer.